REMARKS

Claims 1-13 are pending in the present application. Applicant respectfully requests withdrawal of the rejections, and allowance of the claims.

I. Allowable subject matter

The Examiner indicates that claims 3, 6, 10 and 13 contain allowable subject matter, and would be allowed if rewritten in independent form. Applicant thanks the Examiner for the indication of allowable subject matter. However, Applicant respectfully submits that the rejected claims are also allowable, for at least the reasons discussed in greater detail below.

II. Claims 1, 2, 4, 5, 7-9, 11 and 12 are novel

Claims 1, 2, 4, 5, 7-9, 11 and 12 stand rejected due to alleged anticipation under 35 U.S.C. § 102(b) over Nakamura et al. (U.S. Patent No. 5,321,478, hereafter "Nakamura"). Applicant respectfully submits that Nakamura fails to disclose all of the claimed combinations of features, as required for an anticipation rejection under §102. For at least the reasons herein, Applicant respectfully requests withdrawal of the rejections, and allowance of the claims.

Claim 1

In the presently claimed invention, the period of on/off control in one control mode (for example but not by way of limitation, T1 in the printing mode shown in application Fig. 3) is a time period of one cycle in a printing mode that typically includes two durations of time. In one duration, electric power is supplied to the heater (a state in which an electric power supply is *on*) and in another duration, electric power to the heater is cut off (a state in which the electric power

supply is *off*), rather than duration of the printing mode (from start to completion of the printing mode).

Nakamura discloses heat control of a fixing roll by performing on/off control of an electric power supply to a heater. However, Applicant respectfully submits that Nakamura fails to disclose the period of on/off control as recited in claim 1. It is submitted that each of the periods ts1, ts2, and ts3 disclosed in Fig. 16 of Nakamura is a duration of time during which a temperature of the fixing roller is controlled in one controlled mode, such as that referred to as a standby mode. Each period shown in Nakamura is a duration of time from a completion of a warm-up operation or a previous completion of a printing mode to a next printing mode, rather that the period of on/off control recited in claim 1 of the present application.

It is submitted that Nakamura does not disclose a period of on/off control and therefore, fails to disclose an on/off control that alters a period of on/off control in accordance with control modes (i.e., between a printing mode and an ordinary mode) as recited in independent claim 1.

Because it does not disclose the claimed period of on/off control, Applicant respectfully submits that Nakamura fails to disclose altering a period of on/off control in accordance with control modes (i.e., if a period of on/off control of the printing mode is T1 and a period of on/off control of at least one ordinary mode is T0, then T1< T0) as recited in claim 1. The time period tb in Nakamura is a duration of time (i.e., period) in which heat control is performed such that a temperature of the heater is maintained at one target temperature, such as Ts0, Ts1, or Ts2. Thus, Nakamura does not disclose a time period of on/off control for at least this reason.

Accordingly, Applicant respectfully requests withdrawal of the rejection of independent claim 1.

Claim 2

Further, in the standby mode recited in claim 2 of the present application, when the period relationship T1 < T2 is satisfied, the temperature of the drum is maintained at a predetermined temperature at which image formation can be initiated promptly due to the recording material not being wound onto the heating drum (i.e., the heat load being released), as disclosed at application page 3, line 13 - page 4, line 8. The target temperature in the standby mode is substantially the same as in the printing mode.

However, the standby temperature shown in Figure 16 of Nakamura indicates that a temperature is apparently lower than a fixing temperature Tp. Thus, the standby mode disclosed in Nakamura is different from the standby mode as recited in claim 2 of the present application. Therefore, Applicant respectfully submits that the standby mode claimed in the present invention is not disclosed in Nakamura.

Accordingly, Applicant respectfully requests withdrawal of the rejection of dependent claim 2.

Claim 12

Nakamura discloses an image forming apparatus that can discriminate the frequency of image forming operations. As disclosed in columns 1-2 of Nakamura, a heater for heating a surface of a roller to a predetermined temperature is provided. Additionally, a temperature control unit controls heater operation, corresponding to a warm-up mode, a standby mode, and

an image forming mode. The temperature control unit performs on-off control based on the modes, such that the temperature of the fixing roller equals the control temperature.

However, Applicant respectfully submits that Nakamura does not disclose that during its warm-up mode, the heating drum is kept in such a state that image formation can be initiated in a short time, while also reducing power consumption. Applicant also respectfully submits that Nakamura does not disclose that if the standby mode has been selected and image formation has not occurred for a predetermined time period, then a pre-heating mode is selected.

Further, Applicant respectfully submits that the warm-up mode is not power-saving, because the temperature in the standby mode is lower than the temperature in the warm-up mode. To the contrary, Nakamura discloses at column 1, lines 57-60 that the standby mode, and not the warm-up mode, is the power-saving mode. As a result, Applicant respectfully submits that the warm-up mode of Nakamura is not for reducing power consumption, Also, since the standby mode clearly does not keep the heating drum in a state that permits initiation of image formation in a short time, Nakamura does not disclose or suggest a mode that is (a) power-saving and (b) permits image formation to be initiated in a short period of time, as claimed in the present application.

Applicant respectfully submits that Nakamura fails to disclose all of the claimed combinations of features. For example, but not by way of limitation, Applicant respectfully submits that Nakamura fails to disclose a pre-heating mode which reduces power consumption of the heating drum while keeping the heating drum in a state such that image-formation can be

initiated in a short time, as recited in independent claim 12. As discussed above, Nakamura does not disclose (or even suggest) that claimed feature.

Therefore, Applicant respectfully requests withdrawal of the rejection, and allowance of independent claim 12.

Dependent claims

Claims 2, 4, 5, 7-9 and 11 depend from independent claim 1. Applicant respectfully submits that the dependent claims are allowable for at least the same reasons as discussed above with respect to independent claim 1. Additionally, Applicant respectfully submits that Nakamura fails to disclose (or even suggest) a pre-heating mode which reduces power consumption of the heating drum while keeping the heating drum in a state such that image-formation can be initiated in a short time, as recited in dependent claim 2.

Applicant also respectfully submits that Nakamura fails to disclose that if the standby mode is selected and no image-formation is performed for a predetermined period of time, then the pre-heating mode is selected, as recited in claim 8.

Therefore, Applicant respectfully requests withdrawal of the rejection, and allowance of the claims.

III. Conclusion

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,

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